IEEE P802.11
Wireless LANs

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| IEEE 802.11 TGax, MAC Ad hocMar 2016 Macau TGax MAC Ad hoc Meeting Minutes |
| Date: 2016-03-14 |
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Abstract

TGax, MAC Ad Hoc meeting minutes from the IEEE 802.11 Macau session, Mar 15th – 17th, 2016.

i0Subcarrier**IEEE 802.11 Task Group ax, MAC Ad hoc**

**Jan 2016 Atlanta Meeting**

**Hyatt Regency, Atlanta, USA**

**Jan 18th – 21th, 2016**

**Tuesday, Mar 15th, 2016, AM2 TGax MAC Ad hoc Session (10:30am-12:30pm)**

1. **The meeting called to order at 10:36pm by Eric Wong (Apple), the co-chair of the TGax MAC Ad hoc**
	1. About 55 people are in the room at this time.
2. **Announcement**
	1. Agenda doc is 11-16/0427r0 is on the server.
	2. Meeting Protocol: The Chair asked to state name and affiliation when speaking for the first time.
	3. Attendance reminder.
		1. The attendance server: https://imat.ieee.org/
3. **The chair reviewed the mandatory 5 slides of P&P.**
	1. Instructions from the WG Chair. [reviewed~~, did not review~~]
	2. Participants, Patents, and Duty to Inform [reviewed~~, did not review~~]
	3. Patent Related Links. [reviewed~~, did not review~~]
	4. Call for potentially essential patents.
		1. Chair asked if anyone is aware of potentially essential patents

 [Asked~~. Did not ask~~]

* + 1. Potentially essential patents

 [None reported. ~~Reported as follows~~]

* 1. Other Guidelines for IEEE WG Meetings. [reviewed~~, did not review~~]
1. **The Chair called for presentations**
	1. No requests for additional presentations or reordering of were made.
2. **The Chair asked for approval of the agenda**
	1. No objection raised
3. **Presentation of contributions**

Liwen Chu (Marvell) presented 11-16/0358r0, “Maximal A-MPDU size”

11-16/0358-SP1: Do you support adding the following text to 11ax SFD:

A HE STA can announce its maximum A-MPDU length limits to 221, 222?

Y29 N0 A13 – strawpoll [pre-motion] passes

Chitta Ghosh (Intel) presented 11-16/0362r0, “Multi-TID Aggregation Limit”

11-16/0362-SP1: Do you support to add to the 11ax SFD that the recipient indicates the maximum number of TIDs of the MPDUs that the originator can aggregate in a multi-TID A-MPDU in MU PPDU?

Y38 N0 A11 – strawpoll [pre-motion] passes

11-16/0362-SP2: Do you support to add to the 11ax SFD that within a single A-MPDU containing MPDUs with different value of TIDs, the MPDUs with the same TID value are not required to be in contiguous A-MPDU subframes?

Y33 N0 A10 – strawpoll [pre-motion] passes

Xiaofei Wang presented 11-16/0365r0, “Multi-STA BA Design”

11-16/0356-SP1: Do you agree to insert into the 802.11ax SFD

“4.2 The RA field of the Multi-STA BA with BA information for multiple AIDs may be set to a group address.”

Y8 N9 A32 – strawpoll [pre-motion] fails

SP2 postponed for further discussion

Simone Merlin presented 11-16/0378r1, “Extended BA Bitmap”

11-16/078-SP1: Do you support to add to the SFD the definition of a variant of the Compressed BA frame format with a 256-bits BA Bitmap field?

Y42 N0 A7 – strawpoll [pre-motion] passes

11-16/078-SP2: Do you support to add to the SFD:

Reserved bit(s) in Fragment Number field are used to indicate the length of the BA Bitmap within the same BA Information field?

Y37 N1 A7 – strawpoll [pre-motion] passes

Mid session attendee count: **about** **76 people in the room.**

Dengyu Qiao (Huawei) presented 11-16/404r0 “BlockAck-Bitmap”

11-16/404-SP1 Do you agree to add the following text into the SFD?

The spec shall define a length indication of Block Ack Bitmap subfield included in Fragment Number subfield of the Block Ack Starting Sequence Control field for a multi-STA BA frame, if the Block Ack Bitmap and the Block Ack Starting Sequence Control subfields are present.

Y36 N0 A5 – strawpoll [pre-motion] passes

Delayed strawpoll from Xiaofei Wang presented 11-16/0365r0

11-16/0356-SP2: Do you agree to insert into the 802.11ax SFD

“The RA field of a Multi-STA BA for a single STA should be set to the MAC address of that STA.”

Y7 N0 A28 – strawpoll [pre-motion] passes

1. The Chair [recessed~~, did not recess~~] the MAC ad hoc session at 12:25 pm.

// recess = short break, adjournment = long break

**Tuesday, Mar 15th, 2016, PM2 TGax MAC Ad hoc Session (4pm-6pm)**

1. **The meeting called to order at 4:05pm by Eric Wong (Apple), the co-chair of the TGax MAC Ad hoc**
	1. About 55 people are in the room at this time.
2. **Announcement**
	1. Agenda doc is 11-16/0427r1 is on the server.
	2. Meeting Protocol: The Chair asked to state name and affiliation when speaking for the first time.
	3. Attendance reminder.
		1. The attendance server: https://imat.ieee.org/
3. **The chair reviewed the mandatory 5 slides of P&P.**
	1. Instructions from the WG Chair. [reviewed~~, did not review~~]
	2. Participants, Patents, and Duty to Inform [reviewed~~, did not review~~]
	3. Patent Related Links. [reviewed~~, did not review~~]
	4. Call for potentially essential patents.
		1. Chair asked if anyone is aware of potentially essential patents

 [Asked. ~~Did not ask~~]

* + 1. Potentially essential patents

 [None reported. ~~Reported as follows~~]

* 1. Other Guidelines for IEEE WG Meetings. [reviewed~~, did not review~~]
1. **The Chair asked for approval of the agenda**
	1. No objection raised
2. **Presentation of contributions**

Evgeny Khorov (IITP RAS) presented 11-16/0399r1, “Considerations on Trigger Frame for Random Access Procedure”

11-16/0399-SP1: Do you agree to add the following text in SFD:

x.y.z. In case of unsuccessful transmission attempt triggered by a Trigger frame for random access, OFDMA Contention Window (OCW) is doubled (similar to CW in DCF) until it reaches OCWmax.

Y6 N9 A22– strawpoll [pre-motion] fails

Youbo Li (Huawei) presented 116-11/0383r0 “RU Signaling in Trigger Frame”

Do you support to add to SFD

 9.3.1.23 Trigger frame

 Use 8 bits to signal the RU allocation for each STA in per user info field of Trigger frame.

The first bit indicates the allocated RU is located in the primary or non-primary 80MHz.

The mapping of the subsequent 7 bits indices to the RU allocation is defined in the table below.

|  |  |  |
| --- | --- | --- |
| 7 bits indices | Message | Number of entries |
|  0000000 ~ 0100100  | Possible 26 RU cases in 80MHz |  37 |
|  0100101 ~ 0110100 | Possible 52 RU cases in 80MHz | 16 |
|  0110101 ~ 0111100  | Possible 106 RU cases in 80MHz | 8 |
|  0111101 ~ 1000000  | Possible 242 RU cases in 80MHz | 4 |
|  1000001 ~ 1000010  | Possible 484 RU cases in 80MHz | 2 |
| 1000011  | 996 RU cases in 80MHz | 1 |
| 1000100  | 160MHz/80+80MHz case | 1 |
| **Total** |  | 69 |

Y28 N0 A6– strawpoll [pre-motion] passes

Mid session attendee count: **about** **64 people in the room.**

Matt Fischer (Broadcom) presented 11-16/0368r0, “MAC padding options for legacy trigger frame”

11-16/0368-SP1 Do you support to add to the SFD that the draft specification shall specify that when a Trigger needs to be padded to allow sufficient UL PPDU transmission preparation time, the padding shall be at the MAC layer and the padding shall not include an FCS?

Y44 N0 A10– strawpoll [pre-motion] passes

Matt Fischer (Broadcom) presented 11-16/0369r0, “M-BA aggregated trigger frame”

11-16/0369-SP1: Do you support to add to the SFD, that the draft specification shall specify that M-BA/BA/ACK may be aggregated with a trigger frame in an A-MPDU without accompanying Data?

Y48 N0 A2– strawpoll [pre-motion] passes

Jeongki Kim (LGE) presented 11-16/0361r0, “Ack Policy of UL MU frame”

11-16/0361-SP1: Do you agree to add to SFD?

The ACK Policy of the QoS data frame(s) sent in an HE trigger-based PPDU shall be set to 00 (Normal Ack or Implicit BAR) when the QoS data frame requires to be acknowledged (i.e., the Ack Policy cannot be set to 11 (Block Ack)).

Y37 N0 A7– strawpoll [pre-motion] passes

Jinsoo Ahm (Yonsei University) presented 11-16/0345r1, “Simultaneous NAK for MU GCR-BA”

11-16/0345-SP1: Do you agree to add to the TG Specification Frame work document?

4.7.X The spec shall define a mechanism to utilize a simultaneous NAK (TBD) for multicast operation

When AP allocates common RU for a simultaneous NAK, multicast destination STAs, which cannot successfully decode its multicast PPDU, transmit a simultaneous NAK frame (TBD) via the allocated common RU

Y9 N10 A40 – strawpoll [pre-motion] fails

1. The Chair [recessed~~, did not recess~~] the MAC ad hoc session at 5:57 pm.

// recess = short break, adjournment = long break

**Wednesday, Mar 16th, 2016, PM1 TGax MAC Ad hoc Session (1:30pm-3:30pm)**

1. **The meeting called to order at 1:35pm by Eric Wong (Apple), the co-chair of the TGax MAC Ad hoc**
	1. About 42 people are in the room at this time.
2. **Announcement**
	1. Agenda doc is 11-16/0427r2 is on the server.
3. **The chair reviewed the mandatory 5 slides of P&P.**
	1. Instructions from the WG Chair. [reviewed~~, did not review~~]
	2. Participants, Patents, and Duty to Inform [reviewed~~, did not review~~]
	3. Patent Related Links. [reviewed~~, did not review~~]
	4. Call for potentially essential patents.
		1. Chair asked if anyone is aware of potentially essential patents

 [Asked~~. Did not ask~~]

* + 1. Potentially essential patents

 [None reported. ~~Reported as follows~~]

* 1. Other Guidelines for IEEE WG Meetings. [reviewed~~, did not review~~]
1. **The Chair asked for approval of the agenda**
	1. No objection raised
2. **Presentation of contributions**

Alfred Asterjadhi (Qualcomm) presented 11-16/347r0, “Fragmentation for MU frames-Follow up on parameters”

11-16/347-SP1: Do you support to add to the SFD:

An HE STA specifies the following parameters related to fragmentation:

* Minimum Fragment Size: The minimum payload size for the first fragment of an MSDU supported by the STA
	+ Possible values: 128, 256, 512, Unspecified/No Limit
* Maximum Number of F-MSDUs: The maximum number of fragmented MSDUs/MMPDUs that can be concurrently received by the STA
	+ Possible values: 1, 2, 8, 16, 32, Unspecified/No Limit
	+ Note: Whether the counter is per <RA, TA> or per <RA, TA, TID> is currently TBD.

Y25 N0 A8– strawpoll [pre-motion] passes

Woojin Ahn (Yonsei University) presented 11-16/352r1, “Considerations on MU initial link setup”

11-16/352-SP1: Do you agree to add to the TG Specification Frame work document?

x.y.z the spec shall define a procedure for multiuser initial link setup (MU authentication, MU association)

Y13 N10 A26 – strawpoll [pre-motion] fails

Hanseul Hong (Yonsei Unicersity) presented 11-16/353r1, “MU-RTS/CTS for TWT Protection”

Mid session attendee count: **about** **89 people in the room.**

Liwen Chu (Marvell) presented 11-16/359r0, “Management Ack”

11-16/359-SP1: Do you support adding the following test to 11ax SFD:

A value of 15 in the TID subfield in the Per STA Info field of the M-BA frame indicate the successful acknowledgement of a MGMT frame that requires an immediate response and is carried in the soliciting A-MPDU?

Y40 N0 A9 – strawpoll [pre-motion] passes

Simone Merlin (Qualcomm) presented 11-16/0377r0 “Sounding Sequences Clarifications”

11-16/0377-SP1: Do you support to add to the SFD the following sounding sequence?

HE

NDPA

HE

NDP

SIFS

SU PPDU

 CSI From HE STA

SIFS

HE NDPA is addressed to 1 STA

Y46 N0 A4 – strawpoll [pre-motion] passes

11-16/0377-SP2: Do you support to replace the sounding sequence figure in SFD section 4.6 with following one

HE

NDPA

HE

NDP

SIFS

Trigger

UL TRIG PPDU

CSI From HE STAs

SIFS

SIFS

Trigger

UL TRIG PPDU

CSI From HE STAs

SIFS

SIFS

0..N times

NDPA addressed to multiple STAs

Y42 N0 A3 – strawpoll [pre-motion] passes

Evgeny Khorov (IITP RAS) presented 11-16/0297r2 “Results for beacon collisions”

11-16/0297-SP1: Do you agree that TGax should address beacon collision problem?

Y9 N0 A33

The Chair [recessed~~, did not recess~~] the MAC ad hoc session at 3:30 pm.

// recess = short break, adjournment = long break

**Wednesday, Mar 16th, 2016, PM2 TGax MAC Ad hoc Session (4pm-6pm)**

1. **The meeting called to order at 4:05pm by Eric Wong (Apple), the co-chair of the TGax MAC Ad hoc**
	1. About 60 people are in the room at this time.
2. **Announcement**
	1. Agenda doc is 11-16/0427r3 is on the server.
3. **The chair reviewed the mandatory 5 slides of P&P.**
	1. Instructions from the WG Chair. [reviewed~~, did not review~~]
	2. Participants, Patents, and Duty to Inform [reviewed~~, did not review~~]
	3. Patent Related Links. [reviewed~~, did not review~~]
	4. Call for potentially essential patents.
		1. Chair asked if anyone is aware of potentially essential patents

 [Asked~~. Did not ask~~]

* + 1. Potentially essential patents

 [None reported. ~~Reported as follows~~]

* 1. Other Guidelines for IEEE WG Meetings. [reviewed~~, did not review~~]
1. **The Chair asked for approval of the agenda**
	1. No objection raised
2. **Presentation of contributions**

Geonjung Ko (WILUS) presented 11-16/0396r0, “Issues on BSS Color Bits Collision”

Hanseul Hong (Yonsei University) polled:

11-16/353-SP1: Do you agree to add to the TG Specification Framework document?

Spec shall define a mechanism to protect TWT SP.

* A TWT requesting STA sets the TWT Protection subfield to 1 in TWT Request frame to request the AP to provide protection of the set of TWT SPs using a NAV protection mechanism defined in 802.11ax (e.g. (MU)RTS/CTS or CTS-to-self, etc)

Y8 N2 A37 – strawpoll [pre-motion] passes

The Chair [adjourned] the MAC ad hoc session at 5:07 pm.

// recess = short break, adjournment = long break